



APPENDIX A

Version with markings to show changes made

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TC 2800 MAIL ROOM

1. (Amended) An integrated circuit (IC) package comprising:
a package body;
an IC die positioned within the package body;
a lead frame including a plurality of leads having portions enclosed within the package body that connect to the IC die; and
an electrically conductive heat sink positioned at least partially within the package body with a surface of a first portion of the heat sink facing the lead frame in close proximity to a substantial part of the enclosed portion of each of the plurality of leads of the lead frame and with a die-attach area on the surface of the first portion of the heat sink attached to the IC die, a second portion of the heat sink projecting away from the first portion of the heat sink under the die-attach area and the IC die.
5. (Amended) The IC package of claim 1, wherein the heat sink is coupled to one of a signal voltage and a reference voltage so the heat sink operates respectively as a signal plane and a ground plane for the plurality of leads of the lead frame.
9. (Amended) The IC package of claim 1, wherein the heat sink is coupled to a printed circuit board outside the package body and is thereby coupled to one of a signal voltage and a reference voltage so the heat sink operates respectively as a signal plane and a ground plane for the plurality of leads of the lead frame.
11. (Amended) The IC package of claim 1, wherein the heat sink is positioned within the package body with the surface of its first portion in close proximity to substantially all of the enclosed portion of each of the plurality of leads of the lead frame.

13. (Amended) The IC package of claim 1, wherein the heat sink is positioned within the package body with the surface of its first portion in close proximity to at least eighty percent of an area of the enclosed [portion]portions of the plurality of leads of the lead frame.

22. (Amended) An electronic system comprising an input device, an output device, a memory device, and a processor device coupled to the input, output, and memory devices, at least one of the input, output, memory, and processor devices including an integrated circuit (IC) package comprising:

a package body;

an IC die positioned within the package body;

a lead frame including a plurality of leads having portions enclosed within the package body that connect to the IC die; and

an electrically conductive heat sink positioned at least partially within the package body with a surface of a first portion of the heat sink facing the lead frame in close proximity to a substantial part of the enclosed portion of each of the plurality of leads of the lead frame and having a die-attach area on the surface of the first portion of the heat sink attached to the IC die, a second portion of the heat sink being opposite the die-attach area and projecting away from the first portion of the heat sink and the IC die.

23. (Amended) A lead frame assembly comprising:

a lead frame; and

a heat sink positioned with a surface thereof in a substantially mutually parallel and co-extensive relationship with, and in close but electrically insulated proximity to, the lead frame.

24. (Amended) An integrated circuit (IC) package comprising:

a package body;

an IC die positioned within the package body;

a lead frame including a plurality of leads having portions enclosed within the package body that connect to the IC die; and

an electrically conductive heat sink positioned at least partially within the package body with a vertically extending columnar portion surrounded by a horizontally extending skirt portion having a lead frame attachment surface proximate a die-attach surface substantially vertically aligned with the columnar portion, the lead frame attachment surface being attached to the lead frame and extending in close proximity to a substantial part of the enclosed portions of the plurality of leads of the lead frame, the die-attach surface being attached to the IC die.

25. (Amended) An integrated circuit (IC) package comprising:

an IC die;
a lead frame including a plurality of leads having portions that are connected to the IC die; and
an electrically conductive heat sink positioned having a surface of a first portion of the heat sink facing the lead frame in close proximity to a substantial part of [the]an enclosed portion of each of the plurality of leads of the lead frame and with a die-attach area on the surface of the first portion of the heat sink attached to the IC die, a second portion of the heat sink projecting away from the first portion of the heat sink under the die-attach area and the IC die.

26. (Amended) The IC package of claim 25, further comprising[:]a package body.

30. (Amended) The IC package of claim 25, wherein the heat sink is coupled to one of a signal voltage and a reference voltage so the heat sink operates respectively as a signal plane and a ground plane for the plurality of leads of the lead frame.

34. (Amended) The IC package of claim 26, wherein the heat sink is coupled to a printed circuit board outside the package body and is thereby coupled to one of a signal voltage and a reference voltage so the heat sink operates respectively as a signal plane and a ground plane for the plurality of leads of the lead frame.

36. (Amended) The IC package of claim 26, wherein the heat sink is positioned within the package body with the surface of its first portion in close proximity to substantially all of the enclosed portion of each of the plurality of leads of the lead frame.